

EXHIBIT J



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/710,895	11/14/2000	Ilan Ben-David	B04/1	5837

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EXAMINER

NGUYEN, JIMMY H #9

ART UNIT

PAPER NUMBER

2673

DATE MAILED: 04/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/710,895	BEN-DAVID ET AL.
Examiner	Art Unit	
Jimmy H. Nguyen	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 14 November 2000.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-24 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-24 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____.
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) Other:

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DETAILED ACTION

Drawings

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features, "a plurality of monochromatic sources", as recited in claim 2, and "said viewing screen features a plurality of groups of pixels, each group of pixels including at least four pixels, each pixel corresponding to a primary color", as recited in claim 3, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: page 1, line 7, "60/xxx,xxx" should be changed to -- 60/209,771 --. Appropriate correction is required.

Claim Objections

4. Claim 5 is objected to because of the following informalities: line 1, "further comprising" should be changed to -- wherein said controller comprises -- because the specification, page 16, lines 17-19, discloses the controller comprising a projector lens (58) and a spatially modulated

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mask (56), but does not disclose the system comprising separately a projector (i.e., a combination of a projector lens (58) and a spatially modulated mask (56)) and a controller, as recited in claim 5. Appropriate correction is required.

5. Claim 12 is objected to because of the following informalities: line 2, "DMD, FLC" should be changed to -- deformable micro-mirror device (DMD), Ferroelectric liquid crystal (FLC) --, because these terms in claim render the claim indefinite. Appropriate correction is required.

6. Claim 13 is objected to because of the following informalities: line 2, "LCD" should be changed to -- liquid crystal device (LCD) --, because this term in claim renders the claim indefinite. Appropriate correction is required.

7. Claim 14 is objected to because of the following informalities: line 1, "6" should be changed to -- 7 --, because claim 7, instead of claim 6, recites the feature, "a spatial light modulator". Appropriate correction is required.

8. Claim 15 is objected to because of the following informalities: line 2, "DMD, FLC," should be changed to -- deformable micro-mirror device (DMD), Ferroelectric liquid crystal (FLC), --, because these terms in claim render the claim indefinite. Appropriate correction is required.

9. Claim 16 is objected to because of the following informalities: line 2, "LCD" should be changed to -- liquid crystal device (LCD) --, because this term in claim renders the claim indefinite. Appropriate correction is required.

10. Claim 17 is objected to because of the following informalities: lines 1-2, "said light source further comprises" should be changed to -- said at least four color filters are -- because

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the application, especially figure 3B, discloses a continuously variable neutral density filter including a plurality of color filters, but does not disclose the system comprising separately a continuously variable neutral density filter and a plurality of color filters, as recited in claim 17.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. Claims 3, 20 and 21 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As per claim 3, the application discloses “viewing screen 60 displays the resultant colored image to the user”, page 17, lines 9-10, and “Each position 68 on viewing screen 60 is preferably associated with a certain pixel 70 in spatially modulated mask 56”, page 19, lines 14-15. In other words, the spatially modulated mask 56, but not the viewing screen (60), features a plurality of groups of pixels, each group of pixels including at least four pixels, each pixel corresponding to a primary color, and each position 68 on viewing screen 60 is associated with each group of four pixels, or a resultant pixel which is made up of at least four primary color pixels. However, claim 3 recites the feature, “said viewing screen features a plurality of groups of pixels, each group of pixels including at least four pixels, each pixel corresponding to a primary color”. Therefore, this claim is rejected for the reason as set forth above.

As per claims 20 and 21, the application only discloses in the claims said combination from said controller is digital image data (claim 20) or an analog image signal (see claim

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21), but does not disclose expressly in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Further, independent claim 1 recites "a combination of at least one of said at least four primary colors according to the image data", i.e., a combination of colors is in accordance with the image data, but is not an image data. Therefore, these claims are rejected for the reason as set forth above.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

14. Claims 1, 5, 18, 22 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Guerinot et al. (USPN: 6,147,720).

As per claims above, as noting in figure 1, Guerinot et al. disclose a system (10) (corresponding to the claimed device or system) and an associate method, the system comprising a combination of elements (L1, L2, 18, 20, 22, 36) corresponding to the claimed light source), a combination of elements (LV, 24, 32) corresponding to the claimed controller including a projector lens (24) and a light valve (LV), together corresponding to the claimed projector, a light valve control circuit (28) corresponding to the claimed converter and a projection screen (26) corresponding to the claimed viewing screen. Further, as noting in figure 2B and at col. 4, line 40 through col. 5, line 21, Guerinot et al. further teach the controller for determining a combination of at least one of six colors (red, green, blue, yellow, magenta and cyan). Accordingly, the elements and steps in the claims above are read in the reference.

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Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guerinot et al. (USPN: 5,786,983) as applied to claim 1 above.

As per claims above, Guerinot et al. further teach that the light valve being a liquid crystal device (col. 1, lines 10-14) or deformable micro-mirror device (DMD) (col. 1, lines 33-36) is well-known in the art. Furthermore, the liquid crystal modulator being done with analog image signal and the DMD modulator being done with the digital (or binary) image data are also well-known in the art (see the pending application, page 13, lines 8-16). Therefore, these claims are rejected for the reason as set forth above.

17. Claims 2, 4, 6-8, 14-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guerinot et al., as applied to claims 1 and 5 above, and further in view of Pettitt (USPN: 6,256,073).

As per claims 2, 4 and 6, Guerinot et al. disclose light source comprising six color filters (fig. 2B, col. 4, lines 43-45) and two lamps (L1, L2), lamp (L1) producing red, green and blue colors (col. 4, lines 46-54) and L2 producing yellow, magenta and cyan colors (col. 4, lines 60-63). Accordingly, Guerinot et al. disclose the claimed subject matter except for the light source comprising a plurality of monochromatic sources such as laser sources, or a polychromatic source, as claimed.

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However, Pettitt discloses a related system comprising a light source which features a plurality of monochromatic light sources (102) (fig. 1, col. 3, lines 28-29 and 61-62), each of monochromatic light sources being a laser (col. 4, lines 10-11). Pettitt further teach that a light source includes a light source (208) corresponding to the claimed polychromatic source (fig. 2, col. 4, lines 54-67).

It would have been obvious to a person of ordinary skill in the art to substitute Pettitt's a plurality of monochromatic sources such as laser sources, or a polychromatic source for Guerinot et al.'s lamps because this would increase the brightness and color purity of the system, as taught by Pettitt (col. 1, lines 53-65). Therefore, it would have been obvious to combine Pettitt with Guerinot et al. to obtain the invention as specified in claims above.

As per claims 7 and 8, Guerinot et al. further teach the light valve is the claimed spatial light modulator (col. 3, lines 26-41). Pettitt also teach the projector including a spatial light modulator (106/210) (figs. 1-2, col. 2, line 30). Therefore, these claims are rejected for the reason as set forth above.

As per claims 14-16, Guerinot et al. further teach that the light valve, i.e., the spatial light modulator, may be LCD or DMD (col. 1, line 11 and lines 34-35). Further, the spatial light modulator being one of the group consisting of LCD, DMD, FLC, electro-optical modulator, quantum well modulator and magneto-optical modulator, or being one of the group consisting of a binary modulation type and a continuous modulation type is well-known in the art (see pending application, page 13, lines 1-16 and page 17, line 16 through page 18, line 18). Therefore, these claims are rejected for the reason as set forth above.

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As per claim 19, Pettitt further teach the light source additionally produces white light for controlling brightness of the light of primary colors (fig. 4, col. 5, lines 15-17). It would have been obvious to a person of ordinary skill in the art to utilize Pettitt's teaching, i.e., additionally producing white light, in the system of claim 1 above, because this would increase the image brightness of the system, as taught by Pettitt (col. 5, lines 15-16). Therefore, it would have been obvious to obtain the invention as specified in claim above.

18. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guerinot et al. in view of Pettitt, as applied to claim 2 above, and further in view of Sato et al. (USPN: 5,042,921).

As per claim 3, Guerinot et al. disclose the light valve control circuit configuring a standard RGB video signal into a non-standard RGB-CMY video signal (col. 6, lines 9-11), and the multiplexed light beam MB and video image projected onto the projection screen 26 (col. 3, lines 32-34). Accordingly, Guerinot et al. in view of Pettitt disclose the claimed subject matter except for a viewing screen featuring a plurality of groups of pixels, each group of pixels including at least four pixels, each pixel corresponding to a primary color.

However, Sato et al. disclose a related system comprising a viewing screen (607) for displaying a full-color image (see fig. 20), a viewing screen featuring a plurality of groups of pixels, each group of pixels including 8 pixels, each pixel corresponding to a primary color (fig. 23, col. 21, lines 2-30).

It would have been obvious to a person of ordinary skill in the art to utilize Sato et al.'s teaching in the system of Guerinot et al. in view of Pettitt because this would enhance the luminance and contrast of a full-color image on the screen, as taught by Sato et al. (col. 21, lines

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29-30). Therefore, it would have been obvious to combine Sato et al. and Pettitt with Guerinot et al. to obtain the invention as specified in claim above.

19. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guerinot et al. in view of Pettitt, as applied to claim 7 above, and further in view of Morgan (USPN: 6,324,006 B1).

As per claims above, Guerinot et al. further teach the light source comprising a color wheel (W) for holding the color filters (col. 4, lines 40-45) and a motor (22) for rotating the wheel (col. 3, lines 25-26). Accordingly, Guerinot et al. in view of Pettitt disclose the claimed subject matter except for the projector determining projection light of each primary color according to a temporal sequence.

However, Morgan discloses a related system comprising a projector including a DMD modulator (col. 11, lines 42-49) for determining projection of light by using spatial temporal multiplexing technique in order to obtain a greater resolution (col. 12, lines 1-13).

It would have been obvious to a person of ordinary skill in the art to utilize Morgan's spatial temporal multiplexing technique in the system of Guerinot et al. in view of Pettitt because this would increase a greater resolution of a display system, as taught by Morgan (col. 12, lines 1-13). Therefore, it would have been obvious to combine Morgan and Pettitt with Guerinot et al. to obtain the invention as specified in claims above.

As per claims 11-13, Guerinot et al. further teach that the light valve, i.e., the spatial light modulator, may be LCD or DMD (col. 1, line 11 and lines 34-35). Further, the spatial light modulator being one of the group consisting of LCD, DMD, FLC, electro-optical modulator, quantum well modulator and magneto-optical modulator, or being one of the group consisting of

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a binary modulation type and a continuous modulation type is well-known in the art (see pending application, page 13, lines 1-16 and page 17, line 16 through page 18, line 18). Therefore, these claims are rejected for the reason as set forth above.

20. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guerinot et al. in view of Pettitt, as applied to claim 6 above, and further in view of Cohen et al. (USPN: 3,699,244).

As per claim 17, Guerinot et al. teaches the light source comprising a plurality of color filters provided on a color filter wheel (W). Accordingly, Guerinot et al. in view of Pettitt disclose the claimed subject matter except for the at least said four color filters being a continuously variable neutral density filter.

However, Cohen et al. disclose a display system (fig. 3) comprising a light source including a continuously variable neutral density filter (45) (col. 2, lines 54-56, claim 8), in order to enhance a high resolution full color image to be displayed on the screen (col. 1, lines 35-39).

It would have been obvious to a person of ordinary skill in the art to substitute Cohen et al.'s continuously variable neutral density filter for Guerinot et al.'s color filters because this would enhance a high resolution full color image to be displayed on the screen, as taught by Cohen et al. (col. 1, lines 35-39). Therefore, it would have been obvious to combine Cohen et al. and Pettitt with Guerinot et al. to obtain the invention as specified in claim above.

21. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guerinot et al. in view of Pettitt and Morgan, and further in view of Cohen et al..

As per claim 24, due to the similarity of this claim to a combination of claims 10 and 17 above, this claim is therefore rejected for the reason as set forth above.

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Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is (703) 306-5422. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at (703) 305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

JHN
April 19, 2002


BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Notice of References Cited	Application/Control No.	Applicant(s)/Patent Under Reexamination	
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U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
A	US-3,699,244	10-1972	Cohen et al.	348/121
B	US-5,042,921	08-1991	Sato et al.	349/9
C	US-6,147,720	11-2000	Guerinot et al.	348/743
D	US-6,256,073 B1	07-2001	Pettitt, Gregory S.	348/742
E	US-6,324,006 B1	11-2001	Morgan, Daniel J.	348/742
F	US-			
G	US-			
H	US-			
I	US-			
J	US-			
K	US-			
L	US-			
M	US-			

FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
N					
O					
P					
Q					
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S					
T					

NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	
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X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
 Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.